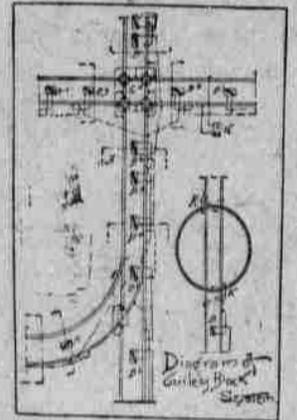


SCIENCE'S TIMELY AID.

ELECTRICITY WILL PREVENT RAILROAD ACCIDENTS.

An Invention by Dr. A. H. R. Guiley—Accurate Description of the New Life-Saver—Latest Triumphs in Science and Art.

An invention which will tend to prevent railway collisions, by giving a timely alarm to an engineer on a moving locomotive when approaching a standing or moving locomotive on the same track, and which will give notice of an occupied grade crossing, an open switch, an open drawbridge, an open switch, an open drawbridge, or a car projecting from a side track over the main track, and which will afford a signal effective in daylight or darkness, on a straight or curved track, or in a tunnel, is one which would cover most of the causes of disaster on railways,



and would prove a boon to travelers, and a paying investment for railways if generally adopted. Such an invention has been made by Dr. A. H. R. Guiley, and has been patented in this and most other countries in the world.

According to this invention, which is illustrated in the annexed engraving, one of the rails is made a continuous conductor by connecting the rails electrically at the joints, and the other rail is divided into sections or blocks, and provided with electrical connections which overlap from one block to another. Between the rails at suitable intervals, preferably at opposite ends of the blocks, are placed electric contact pieces, each formed of two plates insulated from each other and provided with vertical ribs arranged diagonally. These ribs lie in the path of an arm or "feeler" carried by the locomotive, and upon the locomotive is placed a battery and alarm mechanism.

The arrangement of the circuits is such that when a train is passing in one direction, the feeder strikes a set of contacts controlling the circuit arranged for trains passing in that direction. When the train passes in the opposite direction, the feeder strikes the opposite contact plate, securing opposite results. The feeder, which extends downwardly from the pilot of the locomotive, is capable of swinging internally, and is protected so that it is not injured by the shock due to striking the contact plates, or other objects lying on the track.

In the cab of the locomotive is arranged an electrical alarm which is set off by the contact of the feeler with one of the plates, and continues to ring until the engineer readjusts it for another alarm. The inventor has devised an attachment to the feeler by means of which steam is taken through pipes and through the contact end of the feeler for thawing snow and ice that may accumulate upon the feeler or upon the contact plates.

This improved system applied to a railway furnishes a complete grade crossing protection, and a very efficient block signal while at the same time, under certain conditions, it may be used as a train signal by which one train may signal to another.

In the annexed diagram, the contacts, B, B', etc., and the electrical connections, as arranged upon the main track A and branch track, and on opposite sides of the crossing, as shown in the diagram, protect the grade crossing, G, and the switch, I.

The switch, H, is provided for the use of track master and others for signaling a train in case of necessity.



The detached view shows the application of the invention to a drawbridge, J, the contact springs, K, in this case serving to make or break the connections as the bridge is closed or opened. Mr. E. H. Cornell, 122 North Nineteenth street, Philadelphia, Pa., has the business management of this invention.

Electricity in the Printing Office. No discovery has yet been made and no contrivance has been introduced

that will absolutely dissipate or nullify the disturbing effects of electricity in paper, either latent or generated by the revolutions of the press. Many employers have paid out considerable money to electrical experts and others who claimed to have discovered or to be in possession of infallible remedies for this trouble, but not one of them has squarely fulfilled the terms of his contract. We have studied the effect of wires connected with batteries and of wires connected with gas or other pipes leading to the grounds; the latter on the principle of the lightning rod. While these do to a certain extent help

to modify the action of electricity or the generation of it, they fall far short of doing it effectively and completely, and for that reason do not justify the outlay of much money upon them. Again, many printers throughout the country are beyond the reach of those who could help them with the appliances described; are at an expense which, as we have just said, the modicum of benefit that would be derived would not justify. It is for this reason that we recommend to all who have trouble with electricity in paper the adoption of the simple and inexpensive but surprisingly effective remedy we now present.

In nearly every printery a bottle of glycerine is kept for one purpose or another. Take this bottle and a clean rag or other cloth, wet the cloth with water and wring it out well until it is only damp, then pour a little glycerine upon the damp cloth, and wipe the surface of the tympan sheet with it, only on the part of the sheet where the impression is, as it is there that reaction is affected—at the point of pressure. Do not put on too much glycerine, as it will wrinkle the sheet too much. Simply go over it as you would in oiling the sheet to prevent offset. I do not saturate it. If you find that one application or wiping will not stop the trouble, go over the impression parts again in the same manner. Some kinds of stock are more susceptible than others, and call for an additional application.

This is the simplest and cheapest of all the remedies, and as good as any hitherto known.

How Tin Plates are Made.

Following is a summary of the Morewood process of tinning plates now in use at the works of the United States Iron and Tin Plate Company, Limited, at Demmeler Station, Pa.:

The plates are rolled in the ordinary manner into black sheets, eight of these sheets being rolled at one time, and after being sheared to size are placed in the "black pickle" bath of sulphuric acid, where all oxidation is removed. They are placed in an annealing furnace for thirty-six hours and are next passed through the cold rolls, receiving a smoothly polished surface, after which they are annealed again and put into the "white pickle," where they are thoroughly cleansed from any oxidation and are ready for the tinning process. The mode of putting on the coating of tin is a very simple one, and is begun by submerging the plates in a bath of palm oil until all the water disappears, the oil forming a flux for the tin, the first coat of which is received in the tin pot, the plates next being dipped into the "wash pot," and when taken out the tin is spread over the surface with a brush by hand. The final act in the tin coating process is in passing the plates through rolls running in palm oil, whereby the tin is evenly distributed and a smooth surface is obtained. There are 5 feet of these rolls used, running on top of it, and the plates make two passes through them, first being let down through the first and second of the upper set, and by a cradle arrangement are returned the second and third. This completes the tinning operation proper, and the polish is obtained by rapid movements of the plates through bran and middlings, respectively, and then polishing with sheepskin. The result obtained at the Demmeler works is a very excellent article of bright tin plate.—Iron Indus. Gazette.

The Phosphorescence of Diamonds.

In the New York Sun, Mr. G. F. Kunz, the well-known expert in gems, has recently called attention to a property of the diamond which may serve as a means of distinguishing it from other substances. Referring to the paper of Robert Boyle "On a Remarkable Diamond that Shines in the Dark," published in the Transactions of the Royal Society in 1663, Mr. Kunz remarks that this paper has been indirectly alluded to by a number of authors, but never read. Among a quantity of facts Boyle mentions one diamond that phosphoresced simply by the heat of the hand, absorbed light by being held near a candle, and emitted light by being rubbed. He stated that many diamonds emitted light by being rubbed in the dark. The experiments made by Mr. Kunz show conclusively not only that Boyle's statement that some diamonds phosphoresce in the daylight or in an air of electric light is true, but also that all diamonds emit light by rubbing them on wood, cloth or metal, a property which will probably prove of great value in distinguishing between the diamond and other hard stones, as well as paste, none of which exhibit this phenomenon and will be welcomed by the general public who do not possess the experience of the dealer in diamonds. The property is evidently not electric, or it would not be visible on being rubbed on metal.

Rev. Dr. Warren claims that if there were no women on the stage no men would go to the theatre.

Forty-five years ago there was not a postage stamp in the United States.

SERIOUS DANGER

Threatens every man, woman or child living in a region of country where fever and ague is prevalent, since the germ of malarial disease are inhaled from the air and are swallowed from the water of such a region. Medicinal safeguard is absolutely necessary to nullify this danger. As a means of fortifying and acidulating the system so as to be able to resist the malarial poison, Hostetter's stomach Bitters is incomparably the best and the most popular. Irrregularities of the stomach, liver and bowels encourage malarial; but these are speedily rectified by the Bitters. The functions of digestion and secretion are assisted by its use, and a vigorous as well as regular condition of the system promoted by it. Constitution and physique are thus defended against the inroads of malaria by this matchless preventive, which is also a certain and thorough remedy in the worst cases of intermittent and remittent fevers.

The new Chilean tariff law, which repeals the customs law of May 5, provides for the gradual substitution of paper currency by specie dollars for duties.

Men would be very wise if they could only learn so much as their boys think they could teach them.

HEDGED ABOUT BY A PROSCRIPTIVE TABOO.

I am not aiming to convince mental babies, as indeed that would be fruitless without the necessary cultured intellect that makes logic applicable. Force, brilliancy and originality even are no weapons to attack a slave with. For many centuries the medical art was hedged about by a proscriptive taboo which it, as yet, has not survived. The taboo for murdering truth is the penalty of ineffectuality stamped upon the mental caliber of the average individual—in relation to medicine and medicine men. The sun of the nineteenth century has not yet dawned upon his intellectual horizon. He, together with his ideal medicine man, still lingers in the good old days of the dark ages, when it was bad form to be inquisitive. He still "believes" in bleeding, blistering, vomiting, purging and sweating. He loves copious doses of horse medicine. He delights in arsenic and salicylic and carbolic acid. They are considered indispenables; no well-regulated family, with pious intellects and substantial development, considers itself safe without those family laces. These I do not wish to convert; they are the Rip Van Winkles that will continue to slumber through this and probably through the next century. They play no role in the world's history. They live; they die. No monument marks their forgotten sepulcher. Illunaryity was not enriched by their entrance; it has lost nothing by their exit. They are drifted wood on the shores of time, and float with the ebb and tide of opinion; they have lubricated the truth or falsity of any proposition, and, once convinced, will stand by it through all the grimaces of a changing and delayed civilization. To these—not the clergymen, but the thinkers—I commend the Histogenetic system for investigation, and will coincide with you in any question not sufficiently clear in book, which will be sent free to any address.

Dr. Jordan's office is at the residence of ex-Mayor Yesler, Third and James streets, Seattle, Wash.

Consultations and prescriptions absolutely free.

Send for free book explaining the Histogenetic system.

CAUTION.—The Histogenetic Medicines are sold in but one agency in each town. The label around the bottle bears the following inscription: "Dr. J. Eugene Jordan, Histogenetic Medicine." Every other device is a fraud.

One element of shrewdness is to realize that the man you are dealing with may be shrewder than yourself.

IT GOES WITHOUT SAYING:

That ALLOCK'S POROUS PLASTERS are approved by the leading medical men in the country.

That they are the original and genuine porous plasters upon whose reputation imitators trade.

That ALLOCK'S POROUS PLASTERS are the highest result of medical science and skill.

That in ingredients and method they have never been equaled.

That ALLOCK'S POROUS PLASTERS have never yet failed to do their work quickly and effectually.

Beware of imitations, and do not be deceived by misrepresentation. Ask for ALLOCK'S, and let no solicitation or explanation induce you to accept a substitute.

ALLOCK'S COX AND BROWN'S SURETY effect quick and certain relief.

If all the people in the world were expert mind readers, how quick the daily thoughts of most people would be readily improved.

Use Emamine's Tooth Paste: no dust, no smell.

TRY GERMA for breakfast.

Dr. Price's Cream Baking Powder.

A Pure Cream of Tartar Powder. Superior to every other known. Used in Millions of Homes—40 Years the Standard. Delicious Cake and Pastry, Light Flaky Biscuit, Griddle Cakes, Palatable and Wholesome. No other baking powder does such work.

YOU WANT IT!

OUR HOLIDAY CATALOGUE MAILED FREE TO ANY ADDRESS. SEND FOR ONE.

WILL & FINCK, SAN FRANCISCO, CAL.

Between 15,000 and 20,000 Jewish families, newly arrived from Europe, have settled below Tenth street in New York during the last five years.

MASTIFF PLUG CUT

Is Unrivalled

Put that in Your Pipe and Smoke it

Price ought to be one of the least considerations when buying smoking tobacco. If you want the best and are willing to pay a few cents extra, buy the Mastiff Plug Cut; there is more solid comfort in one package than you can get out of a dozen others. Packed in canvas pouches.

"German Syrup"

G. Gloger, Druggist, Watertown, Wis. This is the opinion of a man who keeps a drug store, sells all medicines, comes in direct contact with the patients and their families, and knows better than anyone else how remedies sell, and what true merit they have. He hears of all the failures and successes, and can therefore judge: "I know of no medicine for Coughs, Sore Throat, or Hoarseness that had done such effective work in my family as Boschec's German Syrup. Last winter a lady called Hoarseness, at my store, who was suffering from a very severe cold. She could hardly talk, and I told her about German Syrup and that a few doses would give relief; but she had no confidence in patent medicines. I told her to take a bottle, and if the results were not satisfactory I would make no charge for it. A few days after she called and paid for it, saying that she would never be without it in future as a few doses had given her relief."

INDIAN DEPREDAATION PENSION PATENTS LAND HOMESTEAD POSTAL CLAIMS

The "EXAMINER" BUREAU OF CLAIMS—UNDER THE DIRECTION OF—San Francisco Examiner.

If you have a claim of any description whatsoever against the United States Government and wish it speedily adjudicated, address:

JOHN WOODBURN, Manager, 616 F Street, N. W., Washington, D. C.

Dirt defies the king.

If the old proverb be true, **SAPOLIO** is greater than royalty itself. Try it in your next house-cleaning. Grocers keep it.

DO YOU LIVE IN GREASE?

As a true patriot and citizen you should naturalize yourself by using the best inventions of the day for removing such a charge. To live in Grease is utterly unnecessary when **SAPOLIO** is sold in all the stores, and abolishes grease and dirt.

Buy Your Own Goods if Your Dealer Does Not Carry Them.

ADVANCE THRESHERS, THE BEST IN AMERICA.

PARRY CARTS AND ROAD WAGONS, Best and Cheapest in the World.

Carts, \$15 Up. Wagons, \$50 Up.

Chemical Fire Engines and Refrigerators, Fire Hoses and Department Supplies, Steam Locomotives, Pumps of all kinds, Brass Goods, Pipe and Fittings, Exhaust Insulators, Marine Wrecking and Hoop, Wrenches, Lubricating Oils, Church, School and Para Heals, Engines and Boilers, Blacksmith Drills and Forges, Suggies, Buses, Boring and Excavating Wagons, the largest variety of Goods in Portland. Dealers, write for prices. For further information call on or address:

L. WILBY, Foot of W. Wharf Street, PORTLAND, OREGON.

SEEDS

ALL OUR SEEDS ARE TESTED. If you want the very best goods that you know will grow, at each price, write us. Office: **F. L. POSSON & SON,** Warehouse 208 2d Street Portland, Oregon. Front St.

TREES

PORTLAND Business COLLEGE

Portland, Oregon. A. P. Armstrong, Prin. Branch School: CAPITAL BLDG. COLLEGE BLDG., Oregon. Some courses of study, some rates of tuition.

Business, Shorthand, Typewriting, Penmanship, and English Departments kept in session throughout the year. Students admitted at any time. Catalogue from either school, free.

HAY FEVER CURED TO STAY CURED. & ASTHMA

We want the name and address of every sufferer in the U. S. and Canada. Address, **F. Harold Boyce, M.D., Buffalo, N. Y.**

HOYT & CO.

Want an agent in every town in Oregon, Washington and Idaho to sell

PIANOS AND ORGANS

on commission. No stock or capital needed. Music teachers preferred. Special rates on all goods. Write for particulars.

GLADDING, McBEAN & CO.

SEWER & CHIMNEY PIPE, DRAIN TILE, ARCHITECTURAL TERRA COTTA Etc. 1358-1360 MARKET ST. S. F. MANUFACTORY AT LINCOLN CAL.

JOHNSON & LAWRENCE, WHOLESALE AND RETAIL—Plumbers and Engineers' Supplies, Hand and Steam Pumps, Iron Pipe, Iron Pipe Covering, Lubricators, Water Motors, Fans and Ventilators, Cash Registers, Etc. Write for prices. 232 FIRST ST., PORTLAND, OR. Contractors on heating and ventilating buildings. Estimates furnished.

POISON IN THE PIPE

Leading medical authorities state that new and improperly cured tobacco when heated in the pipe produces a rank vegetable poison.

Tobacco like liquor can only be improved by age. This is the reason why "Seal of North Carolina" is the most popular brand of smoking tobacco in the United States. It is made from tobacco, at least three years old. Its rich mellow smoke has never been equaled.

Seal of North Carolina is now packed in Patent Cloth Pouches, as well as in tin.

PIANOS AND ORGANS, WINTER & HARPER, 71 Morrison Street, Portland, Or. BOX 802.